

<b>BROOKHAVEN NATIONAL LABORATORY GENERAL CLINICAL RESEARCH CENTER POLICY</b>  <b>SUBJECT: Latex Gloves and Other Gloves</b>	NUMBER: IC- 18.0	PAGE 1 OF 2
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	EFFECTIVE DATE: 11/09/07	
	REVISION HISTORY: 3	

## PURPOSE AND SCOPE

This document defines general infection control policies and procedures regarding latex gloves.

## GENERAL

Latex is a component of many products used in health care and the community. The major route of occupational exposure has been postulated as an absorption of the latex protein through the skin. Allergens in or on gloves can be absorbed by the wearer or transferred to the subject's tissue during procedures. The diagnosis of latex allergy relies on a careful history and in some instances an environmental survey with the only effective mode of therapy being avoidance. At risk for latex allergy are health-care workers, employees who use latex gloves (for example custodians) and those with a history of natural rubber latex sensitivity, congenital urinary anomalies, multiple medical and/or surgical procedures or sensitivity to banana, avocado, kiwi, chestnuts, pineapple, or passion fruit.

## SYMPTOMS

1. Edema and itching around the eyes
2. Generalized pruritus
3. Sneezing
4. Urticaria
5. Dermatitis
6. Wheezing
7. Shortness of breath
8. Asthma
9. Airway obstruction as a result of bronchospasm
10. Anaphylactic shock

## THREE TYPES OF REACTIONS ASSOCIATED WITH NATURAL RUBBER LATEX GLOVES

1. Irritant contact dermatitis (nonallergic, nonlife threatening)
  - a) Symptoms
    - (1) Acute: Redness, burning, itching
    - (2) Chronic: Dry, thickened skin; cracking, sores, spaced bumps
  - b) Extent: Stops at glove boundary
  - c) Causes
    - (1) Unrinsed scrubs, soaps, and disinfectants
    - (2) Excessive powders
    - (3) Occlusion, hyperhydration, excessive chemical additives
  - d) Susceptibility: Anyone
2. Allergic contact dermatitis (delayed type of hypersensitivity: Type IV, non-life threatening)
  - a) Symptoms
    - (1) Acute: Small, clustered bumps; itching, redness, pain
    - (2) Chronic: Dry, thickened skin; cracking, sores, spaced bumps
  - b) Extent: May extend beyond glove boundary
  - c) Causes
    - (1) Scrubs, soaps, disinfectants
    - (2) Glove chemicals: Accelerators, preservatives
  - d) Susceptibility: Genetic predisposition (individuals prone to allergies)
3. Urticaria (immediate type of hypersensitivity: Type I, life threatening)
  - a) Symptoms: Hives, swelling, watering eyes, running nose, difficulty breathing, abdominal cramps, dizziness, low blood pressure, rapid heart rate, anaphylactic shock
  - b) Extent: May extend beyond glove boundary and become systemic
  - c) Causes: Protein in the natural rubber latex "sap" from the rubber tree *Hevea brasiliensis*
  - d) Susceptibility
    - (1) Occupational exposure
    - (2) Genetic predisposition

## LATEX FREE GLOVES MUST BE USED BY LATEX ALLERGIC EMPLOYEES OR ON LATEX ALLERGIC SUBJECTS

## RECOMMENDED PRECAUTIONS FOR LATEX-SENSITIVE PERSONS

1. Subjects:

- a) Include questions about latex sensitivity when taking all subjects histories
  - b) Place latex allergy bracelet on subject
  - c) Put clean, visible signs on the doors to subjects and procedure rooms stating that there is a latex-sensitive subject in the room
  - d) Use nonlatex gloves (vinyl, thermoplastic elastomer, nitrile)
  - e) Substitute latex-free products for those containing latex whenever possible
  - f) Place stopcock in intravenous IV lines for injection of drugs and tape over latex ports
  - g) Avoid multidose medication
  - h) Wrap blood pressure measurement connecting tubing with gauze or place cotton batting on areas of contact with subject skin
  - i) Use Velcro tourniquets or place gauze under latex tourniquets
  - j) Notify personnel (doctors, nurses, pharmacy etc.) that the subject is latex sensitive so they can use the appropriate procedures when preparing items for the subject
2. Healthcare Workers
- a) Irritant contact dermatitis
    - (1) Rinse hands thoroughly after washing
    - (2) Dry hands thoroughly before putting on gloves
    - (3) Select a different lot of gloves (nitrile, vinyl etc.)
    - (4) Select a glove low in chemical additives or post-processed for chemical neutralization
    - (5) Report your condition to OMC
  - b) Allergic contact dermatitis
    - (1) See a dermatologist
    - (2) Select a glove proven low in chemical contact sensitizers (nitrile, vinyl, etc.)
  - c) Urticaria
    - (1) See an allergist
    - (2) Work in a powder-free environment
    - (3) Select a nonlatex glove (e.g., polyvinyl chloride, polyethylene, plastic, neoprene, nitrile)
    - (4) Wear low-protein-allergen, non-powdered gloves

**HCW'S must remember that hand hygiene should be performed following glove removal**

It is essential that all HCW's understand that wearing gloves does NOT eliminate the need for appropriate hand hygiene.

1. Gloves cannot provide complete protection against bacterial contamination of HCW's hands.
2. Wearing gloves cannot completely guard against acquiring infections.
3. Glove manufacturing guidelines are designed to eliminate most glove defects, however, a limited percentage of gloves will have small holes that could provide a passageway for microbial transfer.
4. Glove removal may be a source of hand contamination, if gloves are not removed correctly.

As a result, it is crucial for HCW's to wash hands following glove removal when hands are visibly soiled. Hands should also be washed when the integrity of the gloves has been compromised (torn, etc.) during use. In the absence of visible (or any perceived) contamination of hands, hand hygiene with alcohol handrubs is appropriate, following glove removal.

**ADDITIONAL GLOVE CONSIDERATIONS**

1. Medical gloves should **NEVER** be washed or reused (An exception may be heavier reusable gloves such as those used in housekeeping, x-ray, and when handling hazardous chemicals).
2. Wear the correct size gloves
3. Promote proper fingernail length (1/4 inch) to minimize glove tears and maintain glove integrity.
4. Avoid use of petroleum-based lotions or creams with latex gloves, as they may adversely affect the integrity of latex gloves.
5. Barrier integrity may be impacted by storing gloves near heat or cold extremes, sunlight, UV, fluorescent lights, or X-rays.
6. Heavily-fragranced lotions may precipitate hand irritation if worn under gloves.
7. Consider healthcare personnel lotions that are compatible with hand hygiene products.
8. If powdered gloves are used, followed by hand hygiene with certain alcohol handrubs, powder residue may interact with the alcohol, producing a "gritty feeling" on hands. This is an essential issue to address, both when selecting gloves as well as when choosing alcohol products for hand hygiene.
9. Select and appropriate glove for use when exposure to chemicals is anticipated.
10. Both examination (non-sterile) gloves and surgical (sterile) gloves must be available for specific healthcare tasks.

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